SPEC® CFP2006 Result

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NEC Corporation

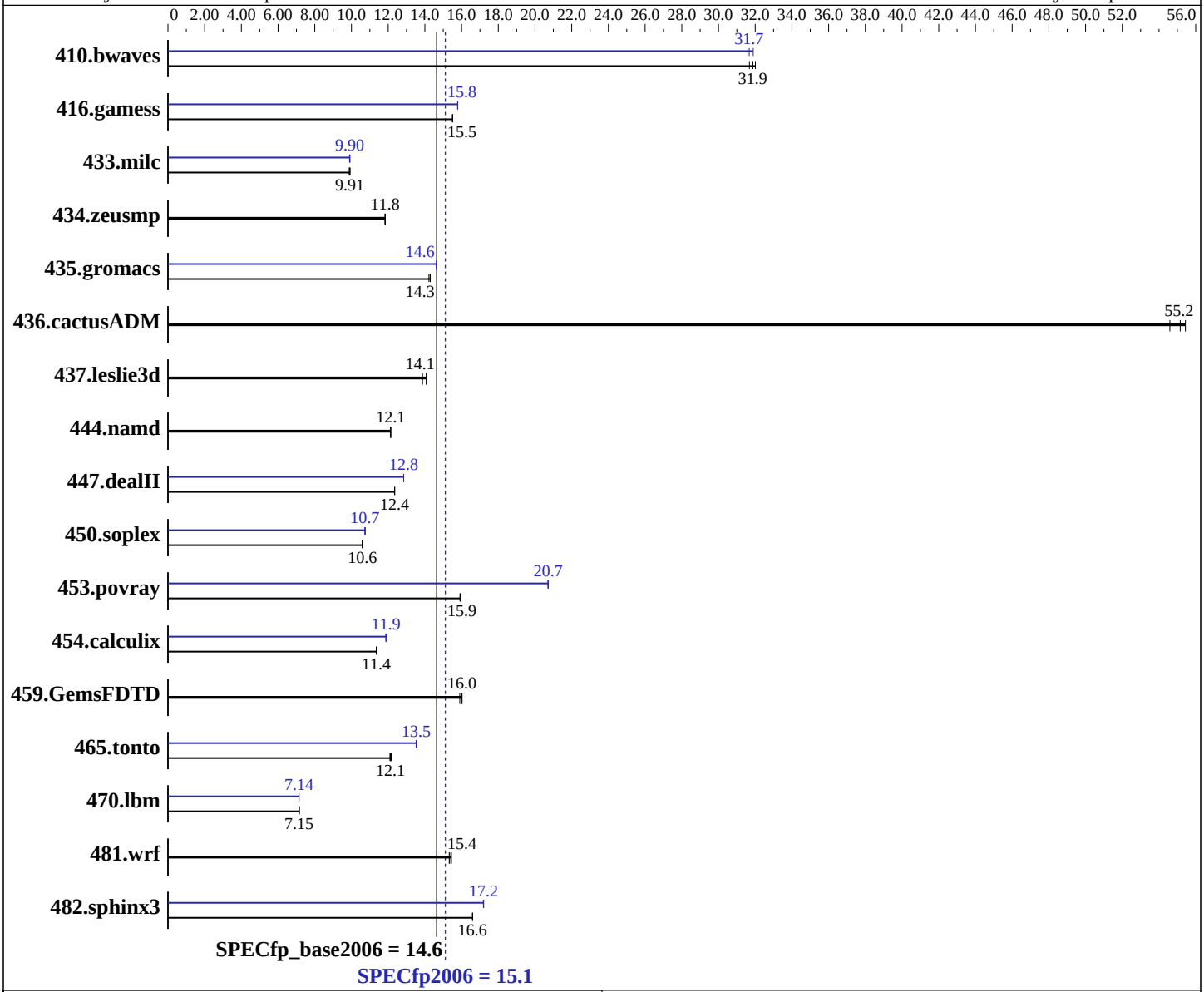
Express5800/120Ri-2
(Intel Xeon processor E5345)

SPECfp®2006 = 15.1

SPECfp_base2006 = 14.6

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Jul-2007
Hardware Availability: Jan-2007
Software Availability: Apr-2007



Hardware

CPU Name:	Intel Xeon E5345
CPU Characteristics:	2.33 GHz, 2x4 MB L2 shared, 1333 MHz bus
CPU MHz:	2333
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	8 MB I+D on chip per chip, 4 MB shared / 2 cores

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Software

Operating System:	Windows Server 2003, Standard x64 Edition
Compiler:	Intel C++ Compiler for EM64T version 9.1 Build 20070322, Package-ID W_CC_C_9.1.037 Intel Fortran Compiler for EM64T version 9.1 Build 20070322, Package-ID W_FC_C_9.1.037 Microsoft Visual Studio 2005 (libr. & linker)
Auto Parallel:	Yes
File System:	NTFS
System State:	Default

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x73.2 GB SAS, 15000RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	425	32.0	**426**	**31.9**	429	31.7	426	31.9	**429**	**31.7**	430	31.6
416.gamess	1262	15.5	**1262**	**15.5**	1264	15.5	**1240**	**15.8**	1240	15.8	1241	15.8
433.milc	925	9.93	**926**	**9.91**	930	9.87	**927**	**9.90**	928	9.89	925	9.92
434.zeusmp	769	11.8	769	11.8	**769**	**11.8**	769	11.8	769	11.8	**769**	**11.8**
435.gromacs	**500**	**14.3**	500	14.3	502	14.2	488	14.6	488	14.6	**488**	**14.6**
436.cactusADM	216	55.4	**217**	**55.2**	219	54.6	216	55.4	**217**	**55.2**	219	54.6
437.leslie3d	668	14.1	**668**	**14.1**	678	13.9	668	14.1	**668**	**14.1**	678	13.9
444.namd	**661**	**12.1**	661	12.1	661	12.1	**661**	**12.1**	661	12.1	661	12.1
447.dealII	926	12.3	926	12.4	**926**	**12.4**	890	12.8	**891**	**12.8**	891	12.8
450.soplex	787	10.6	**787**	**10.6**	788	10.6	777	10.7	**776**	**10.7**	776	10.7
453.povray	**334**	**15.9**	334	15.9	334	15.9	257	20.7	257	20.7	**257**	**20.7**
454.calculix	726	11.4	**726**	**11.4**	726	11.4	**694**	**11.9**	695	11.9	694	11.9
459.GemsFDTD	**663**	**16.0**	662	16.0	667	15.9	**663**	**16.0**	662	16.0	667	15.9
465.tonto	809	12.2	**812**	**12.1**	814	12.1	728	13.5	**727**	**13.5**	727	13.5
470.lbm	1921	7.15	**1922**	**7.15**	1922	7.15	1924	7.14	1924	7.14	**1924**	**7.14**
481.wrf	723	15.4	729	15.3	**728**	**15.4**	723	15.4	729	15.3	**728**	**15.4**
482.sphinx3	1174	16.6	**1174**	**16.6**	1175	16.6	1134	17.2	**1133**	**17.2**	1133	17.2

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

```
The Express5800/120Rg-1(Intel Xeon processor E5345) and
the Express5800/120Ri-2(Intel Xeon processor E5345) models are electronically equivalent.
The results have been measured on a Express5800/120Ri-2(Intel Xeon processor E5345) model.
```

Base Compiler Invocation

C benchmarks:

```
icl -Qvc8 -Qc99
```

C++ benchmarks:

```
icl -Qvc8
```

Continued on next page

Base Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc8 -Qc99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64
416.gamess: -DSPEC_CPU_P64
433.milc: -D_Complex= -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -D_Complex= -DSPEC_CPU_P64
436.cactusADM: -D_Complex= -DSPEC_CPU_P64 -Qlowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -D_Complex= -DSPEC_CPU_P64 -DBOOST_NO_INTRINSIC_WCHAR_T
-DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
454.calculix: -D_Complex= -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER
-Qlowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -D_Complex= -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -D_Complex= -DSPEC_CPU_P64

Base Optimization Flags

C benchmarks:
-fast -Qparallel -F950000000 -link -FORCE:MULTIPLE

C++ benchmarks:
-fast -Qparallel -Qcxx-features -F950000000
-link -FORCE:MULTIPLE

Fortran benchmarks:
-fast -Qparallel -F950000000 -link -FORCE:MULTIPLE

Benchmarks using both Fortran and C:
-fast -Qparallel -F950000000 -link -FORCE:MULTIPLE

Peak Compiler Invocation

C benchmarks:
icl -Qvc8 -Qc99

C++ benchmarks:
icl -Qvc8

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc8 -Qc99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
-Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -F950000000
-link -FORCE:MULTIPLE

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx-features
-F950000000 -link -FORCE:MULTIPLE

450.soplex: Same as 447.dealII

453.povray: Same as 447.dealII

Fortran benchmarks:

410.bwaves: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qparallel
-F950000000 -link -FORCE:MULTIPLE

416.gamess: -fast -F950000000 -link -FORCE:MULTIPLE

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

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Peak Optimization Flags (Continued)

465.tonto: `Same as 410.bwaves`

Benchmarks using both Fortran and C:

435.gromacs: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -F950000000 -link -FORCE:MULTIPLE`

436.cactusADM: `basepeak = yes`

454.calculix: `Same as 435.gromacs`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/NEC-cpu2006-ic91-flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/NEC-cpu2006-ic91-flags.xml`

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For other inquiries, please contact webmaster@spec.org.

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